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## European Technical Assessment

**ETA-20/1208**  
 of 2020/12/17

### General Part

<b>Technical Assessment Body Issuing the European Technical Assessment:</b>	<b>Element Materials Technology Rotterdam B.V.</b>
<b>Trade Name of the Construction Product:</b>	Pyroplex 200 Series Collar & Pyroplex 400 Series Collar
<b>Product Family to Which the Construction Product Belongs:</b>	EC PAC 35 – Fire Stopping, Fire Sealing & Fire Protective Products. Fire Retardant Products
<b>Manufacturer:</b>	<b>Pyroplex Limited</b> The Furlong Droitwich Worcestershire WR9 9BG
<b>Manufacturing Plant(s):</b>	E/043
<b>This European Technical Assessment Contains:</b>	18 Pages including Annex A and B which form an integral part of this Assessment
<b>This European Technical Assessment is Issued in Accordance with Regulation (EU) No 305/2011, On the Basis Of:</b>	EAD 350454-00-1104, Issue September 2017 Fire stopping and fire sealing products - Penetration seals
<b>This Version Replaces:</b>	ETA 15/0136 issued on 2019/10/03

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# 1 Technical Description of the Product

- 1) 200 & 400 Series Collars are used around combustible pipes to form a penetration seal to reinstate the fire resistance performance of wall and floor constructions, where they have been provided with apertures for the penetration of combustible pipes services.
- 2) 200 Series Collars include an intumescent component incorporated into a mild steel case to close any gaps or joints and provide closure of combustible pipes when heated and to prevent the passage of fire.
- 3) 400 Series Collars include an intumescent component incorporated into a stainless steel case to close any gaps or joints and provide closure of combustible pipes when heated and to prevent the passage of fire.
- 4) 200 & 400 Series Collars are supplied in assembled form, without fixings. The collar is wrapped around the pipe at the soffit of floors and on both faces of walls, closed and then fixed back to the separating element with the specified number of M8 sleeve anchors or 50 mm expanding bolts.
- 5) When 400 Series Collars are installed within flexible wall constructions, 8mm threaded rod should be utilised through the collar and supporting construction fixed in place with a single fastening nut either side.
- 6) The applicant has submitted a written declaration that the product and/or constituents of the product contains no substances which have been classified as dangerous according to Directive 67/548/EEC and Regulation (EC) No. 1272/2008 and listed in the 'indicative list on dangerous substances' of the EGDS – taking into account the installation conditions of the construction product and the release scenarios resulting from there.

In addition to the specific clauses relating to dangerous substances contained in this European Technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

The use category of 200 & 400 Series Collars in relation to BWR 3 (Hygiene, health and environment) is IA3, S/W3

## 2 Specification Of The Intended Use In Accordance With The Applicable European Assessment Document (EAD)

The intended use of system 200 Series Collar and system 400 Series Collar is to reinstate the fire resistance performance of rigid wall constructions and rigid floor constructions where they are penetrated by various combustible pipe services.

- 1) The specific elements of construction that the system 200 Series Collar and system 400 Series Collar may be used to provide a penetration seal in, are as follows:

Rigid floors: The floor must have a minimum thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650 kg/m<sup>3</sup>.

Rigid walls: The wall must have a minimum thickness of 150 mm and comprise concrete, aerated concrete or masonry, with a minimum density of 650 kg/m<sup>3</sup>.

Rigid walls: The wall must have a minimum thickness of 130 mm and comprise concrete, aerated concrete or masonry, with a minimum density of 650 kg/m<sup>3</sup>.

Flexible walls: The wall must have a minimum thickness of 130 mm and comprise timber or steel studs lined on both faces with minimum 2 layers of 15 mm thick, 'Type F' Gypsum boards according to EN 520. In timber stud walls, no part of the penetration shall be closer than 100 mm to a stud, and minimum 100 mm of insulation of class A1 or A2 according to EN 13501-1, is provided within the cavity between the penetration seal and the stud.

The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period.

- 1) The system 200 Series Collar and system 400 Series Collar may be used to provide a penetration seal with specific combustible pipes, single only (for details see Annex A & B).
- 2) Apertures in the separating element shall be maximum 5 mm diameter oversize (dependant on application) with respect to the pipe diameter for. The remaining annular space/gap shall be infilled with an acrylic mastic sealant such as Pyroplex Intumescent Mastic for the purpose of providing a smoke seal. Apertures for the penetration of pipes shall be separated by a minimum 200 mm.
- 3) Pipes shall be supported at maximum 300 mm away from both faces of the wall constructions and 320mm from the upper face of floor constructions.

### 2.1 Use Category

**Type Z2: Intended for use at internal conditions with humidity classes other than Z1, excluding temperatures below 0°C.**

### 3 Performance Of The Product And References To The Methods Used For Its Assessment

BWR	Basic Requirement	Performance
<b>2</b>	<b>Safety in case of fire</b>	
	Reaction to fire	Class F
	Resistance to fire	See Annex A & B
<b>3</b>	<b>Hygiene, Health and the Environment</b>	
	Release of dangerous substances	Use category IA3, S/W3 Declaration of manufacturer
<b>4</b>	<b>Safety and Accessibility in Use</b>	
	Durability and serviceability	Z <sub>2</sub>

### 4 Assessment And Verification Of Constancy Of Performance (Hereinafter AVCP) System Applied, With References To Its Legal base

According to the decision 1999/454/EC of the European Commission the system of assessment and verification of constancy of performance (see Annex V to the Regulation (EU) No 305/2011) given in the following table apply:

Products	Intended Use/s	AVCP System
Fire stopping and fire sealing products	For fire compartmentation and / or fire protection or fire performance	System 1

### 5 Technical Details Necessary For The Implementation Of The AVCP System, As Provided For In The Applicable EAD.

#### 5.1 Tasks for the Manufacturer

##### 5.1.1 Factory production control

The manufacturer has a Factory Production Control System (FPC) and exercises permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer are documented in a systematic manner in the form of policies, procedures and work instructions. This FPC system ensures that the product is in conformity with this European Technical Assessment.

The manufacturer shall only use raw materials or components that are supplied with the relevant inspection documents as laid down in the Control Plan. All incoming raw materials shall be subject to inspection, verification, controls and tests (as applicable) by the manufacturer.

The Control Plan, Reference, 4.10.13, which is part of the technical documentation of this European Technical Assessment includes details of the extent, nature and frequency of

testing and controls to be performed within the FPC system and has been agreed between the Assessment holder and Element Materials Technology Rotterdam B.V.. Any changes to the FPC; Control Plan or the Product shall only be made following approval by Element Materials Technology Rotterdam B.V. The results of FPC are recorded and evaluated. These records include but are not limited to:

- Product specification and designation, basic materials and components
- Type(s) of Control testing
- Date of manufacture of the product and date of testing of the product or basic material and components;
- Result of control and testing and, if appropriate, comparison with requirements;
- Signature of the person responsible for FPC

These records shall be presented to Element Materials Technology Rotterdam B.V. upon request.

The manufacturer shall, on the basis of a contract, involve a body (bodies) which is (are) approved for the tasks referred to in section 5.2 of this ETA. For this purpose, the "Control Plan" referred to in sections 5.1.1 and 5.2 shall

## **5.1.2 Other tasks of manufacturer**

### **5.1.2.1 Additional information**

The manufacturer shall provide a technical data sheet and an installation instruction with the following minimum information:

(a) Technical data sheet:

- Field of application:
- Building elements for which the penetration seal is suitable, type and properties of the building elements like minimum thickness, density, and - in case of lightweight constructions – the construction requirements.
- Services for which the penetration seal is suitable, type and properties of the services like material, diameter, thickness etc. in case of pipes including insulation materials; necessary/allowed supports/fixings (e.g. cable trays)
- Limits in size, minimum thickness etc. of the penetration seal
- Construction of the penetration seal including the necessary components and additional products (e.g. backfilling material) with clear indication whether they are generic or specific.

(b) Installation instruction:

- Steps to be followed
- Procedure in case of retrofitting.

## **5.2 Tasks of Notified Body**

### **5.2.1 Initial Type Testing of the Product**

For initial type-testing the results of the tests performed as part of the assessment for the European Technical Assessment shall be used unless there are changes in the production line or plant. In such cases the necessary type testing has to be agreed between Warringtonfire Testing and Certification Limited and the Notified Body.

### **5.2.2 Initial Inspection of Factory and of Factory Production Control**

The Notified Body shall ascertain that, in accordance with the provisions laid down in the Control Plan, Reference 4.10.13, the factory and the factory production control are suitable to ensure continuous and orderly manufacturing of the product according to the specifications mentioned in Section 2, as well as to the Annexes to this European Technical Assessment.

### **5.2.3 Continuous Surveillance**

The Notified Body shall visit the factory twice a year for regular inspection. It shall be verified that the system of factory production control and the specified manufacturing process is maintained in accordance with the provisions of this European Technical Assessment and the Control Plan.

Continuous surveillance and assessment of factory production control shall be performed in accordance with the provisions laid down in the agreed Control Plan.

The results of product certification and continuous surveillance shall be made available on demand by the certification or inspection body or to Warringtonfire Testing and Certification Limited. In cases where the provisions of this European Technical Assessment and the prescribed Control Plan are no longer fulfilled, the conformity certificate shall be withdrawn and the relevant authority/ies shall be informed.

Issued in Amsterdam, Netherlands on 2020/12/17

By

A handwritten signature in black ink, appearing to read "Paul Duggan". The signature is written in a cursive style with a large initial "P" and a stylized "D".

Paul Duggan  
Deputy TAB Manager

# Annex A

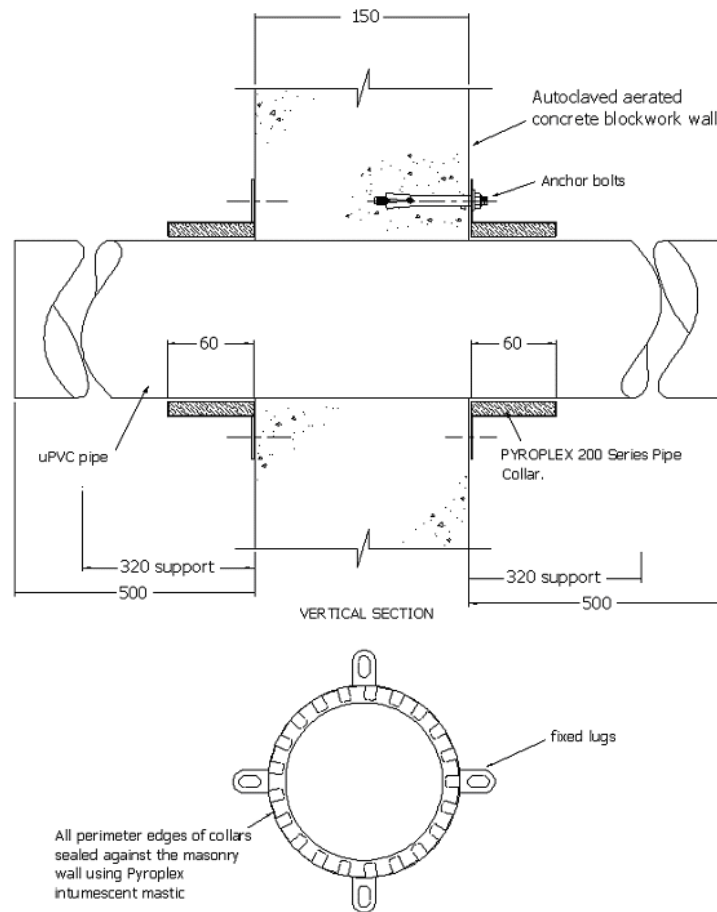
## Resistance to Fire Classification of 200 Series Collar

### A.1 Rigid wall constructions according to 1.2.1 with wall thickness of minimum 150 mm

#### A.1.1 Penetration seal with 200 Series Collar fixed to both faces of wall

**Penetration Seal:** Combustible pipes fitted with a single Pyroplex 200 Series Collar on both sides. The collar is fixed to the wall. Maximum 2.5 mm annular space filled with Pyroplex Intumescent Mastic.

Construction details:



#### A.1.1.1 Separation of services minimum 200 mm

Services	Collar	Classification
PVC-U pipe according to EN 1329-1 <sup>1</sup>		
Diameter 55 mm, wall thickness 3.2 mm	<b>PPC55-2</b>	<b>EI 120 – U/C</b> <b>EI 120 – C/C</b>
Diameter 82 mm, wall thickness 3.2 mm	<b>PPC82-2</b>	
Diameter 110 mm, wall thickness 3.2 mm	<b>PPC110-2</b>	
Diameter 160 mm, wall thickness 3.2 mm	<b>PPC160-2</b>	

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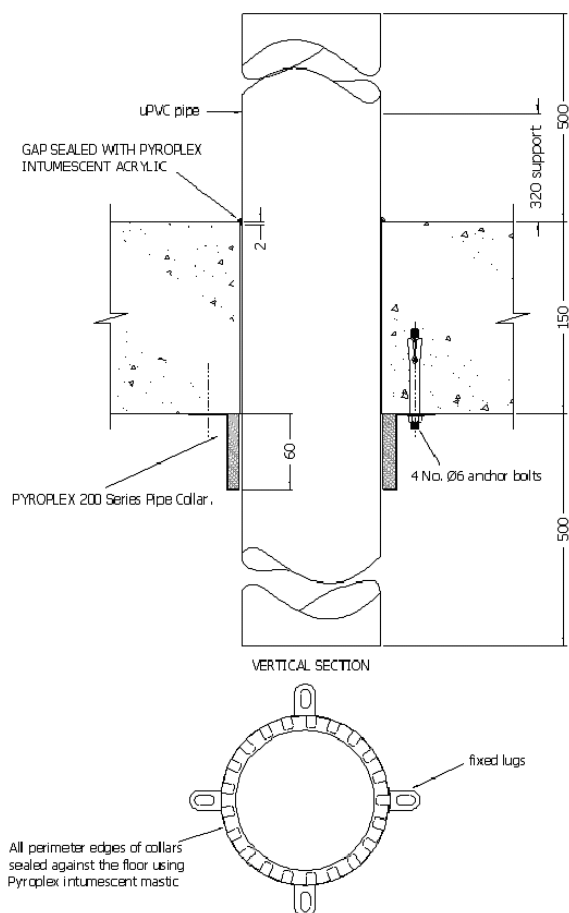
<sup>1</sup> In Germany the pipes have additionally to comply with DIN 19531-10

Rigid floor constructions according to 1.2.1 with floor thickness of minimum 150 mm

### A.1.2 Penetration seal with 200 Series Collar fixed to soffit of floor

**Penetration Seal:** Combustible pipes fitted with a single Pyroplex 200 Series Collar on soffit. The collar is fixed to the wall. Maximum 2.5 mm annular space filled with Pyroplex Intumescent Mastic.

Construction details:



#### A.1.2.1 Separation of services minimum 200 mm

Services	Collar	Classification
PVC-U pipe according to EN 1329-1 <sup>1</sup>		
Diameter 55 mm, wall thickness 3.2 mm	<b>PPC55-2</b>	<b>EI 120 – U/C</b> <b>EI 120 – C/C</b>
Diameter 82 mm, wall thickness 3.2 mm	<b>PPC82-2</b>	
Diameter 110 mm, wall thickness 3.2 mm	<b>PPC110-2</b>	
Diameter 160 mm, wall thickness 3.2 mm	<b>PPC160-2</b>	

## Annex B

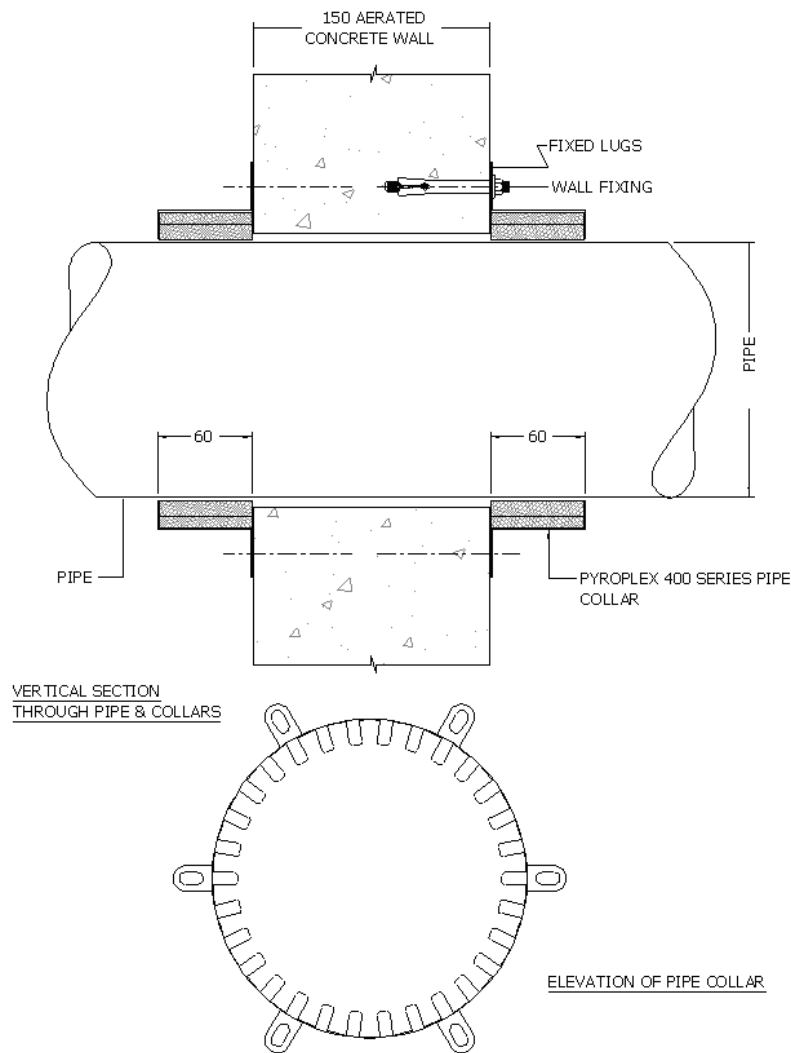
### Resistance to Fire Classification of 400 Series Collar

#### B.1 Rigid wall constructions according to 1.2.1 with wall thickness of minimum 150 mm

##### B.1.1 Penetration seal with 400 Series Collar fixed to both faces of wall

**Penetration Seal:** Combustible pipes fitted with a single Pyroplex 400 Series Collar on both sides. The collar is fixed to the wall. Maximum 2.5 mm annular space filled with Pyroplex Intumescent Mastic.

Construction details:



**B.1.1.1 Separation of services minimum 200 mm**

Services	Collar	Classification
PVC-U pipe according to EN 1329-1 <sup>2</sup>		
Diameter 25 mm, wall thickness 1.8 mm	PPC25-4	EI 180 – U/C EI 180 – C/C
Diameter 32 mm, wall thickness 1.8 mm	PPC32-4	
Diameter 40 mm, wall thickness 1.8 mm	PPC40-4	
Diameter 48 mm, wall thickness 3.2 mm	PPC48-4	
Diameter 55 mm, wall thickness 3.2 mm	PPC55-4	
Diameter 68 mm, wall thickness 3.2 mm	PPC68-4	
Diameter 82 mm, wall thickness 3.2 mm	PPC82-4	
Diameter 110 mm, wall thickness 3.2 mm	PPC110-4	
Diameter 125 mm, wall thickness 3.2 mm	PPC125-4	
Diameter 135 mm, wall thickness 3.2 mm	PPC135-4	
Diameter 160 mm, wall thickness 3.2 mm	PPC160-4	
Diameter 200 mm, wall thickness 5.4 mm	PPC200-4	EI 240 – C/C
Diameter 225 mm, wall thickness 7.2 mm	PPC225-4	
Diameter 250 mm, wall thickness 7.2 mm	PPC250-4	
Diameter 315 mm, wall thickness 8.2 mm	PPC315-4	EI 180 – C/C

**B.1.1.2 Separation of services minimum 200 mm**

Services	Collar	Classification
PVC-U pipe according to EN 1452-2 <sup>1</sup>		
Diameter 350 mm, wall thickness 9.8 mm	PPC350-4	EI 120 – C/C
Diameter 400 mm, wall thickness 9.8 mm	PPC400-4	

**B.1.1.3 Separation of services minimum 200 mm**

Services	Collar	Classification
PE-HD pipe according to EN 12201-2 <sup>3</sup>		
Diameter 350 mm, wall thickness 23.7 mm	PPC350-4	EI 60 – C/C
Diameter 400 mm, wall thickness 23.7 mm	PPC400-4	

<sup>2</sup> In Germany the pipes have additionally to comply with DIN 19531-10

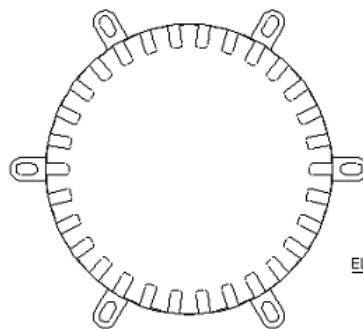
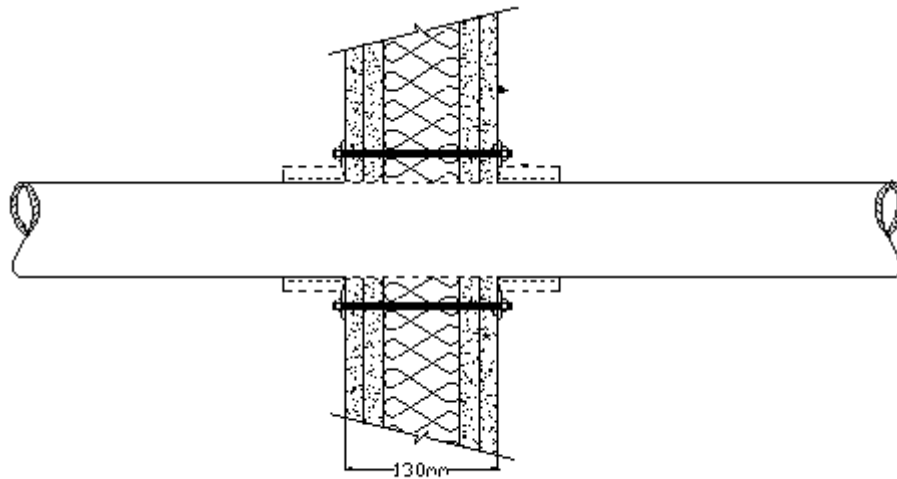
<sup>3</sup> In Germany the pipes have additionally to comply with DIN 19535-10

**Flexible or rigid wall constructions according to 1.2.1 with wall thickness of minimum 130 mm**

**B.1.1 Penetration seal with 400 Series Collar fixed to both faces of wall**

**Penetration Seal:** Combustible pipes fitted with a single Pyroplex 400 Series Collar on both sides. The collar is fixed to the wall. Maximum 1mm annular space filled with Pyroplex Intumescent Mastic.

Construction details:



ELEVATION OF PIPE COLLAR

### B.1.1.1 Separation of services minimum 200 mm

Services	Collar	Classification
<b>PVC-U pipe according to EN 1452-2</b>		
Diameter 25 mm, wall thickness 1.9 – 3.0 mm	<b>PPC25-4</b>	<b>EI 120 U/C, C/C</b>
Diameter 32 mm, wall thickness 1.9 – 3.0 mm	<b>PPC32-4</b>	
Diameter 40 mm, wall thickness 1.9 – 3.0 mm	<b>PPC40-4</b>	
Diameter 48 mm, wall thickness 2.2 – 3.4 mm	<b>PPC48-4</b>	
Diameter 55 mm, wall thickness 3.3 – 5.2 mm	<b>PPC55-4</b>	
Diameter 68 mm, wall thickness 3.3 – 5.2 mm	<b>PPC68-4</b>	
Diameter 82 mm, wall thickness 3.3 – 5.2 mm	<b>PPC82-4</b>	
Diameter 90 mm, wall thickness 4.8 – 7.4 mm	<b>PPC90-4</b>	
Diameter 110 mm, wall thickness 4.8 – 7.4 mm	<b>PPC110-4</b>	
Diameter 125 mm, wall thickness 4.8 – 7.4 mm	<b>PPC125-4</b>	
Diameter 160 mm, wall thickness 6.2 – 9.5 mm	<b>PPC160-4</b>	

### B2.1.2 Separation of services minimum 200 mm

Services	Collar	Classification
<b>HDPE pipe according to EN 1519</b>		
Diameter 25 mm, wall thickness 2.4 – 3.7 mm	<b>PPC25-4</b>	<b>EI 120 U/C, C/C</b>
Diameter 32 mm, wall thickness 2.4 – 3.7 mm	<b>PPC32-4</b>	
Diameter 40 mm, wall thickness 2.4 – 3.7 mm	<b>PPC40-4</b>	
Diameter 48 mm, wall thickness 2.5 – 4.0 mm	<b>PPC48-4</b>	
Diameter 55 mm, wall thickness 3.3 – 5.2 mm	<b>PPC55-4</b>	
Diameter 68 mm, wall thickness 3.0 – 5.4 mm	<b>PPC68-4</b>	
Diameter 82 mm, wall thickness 3.0 – 5.4 mm	<b>PPC82-4</b>	
Diameter 90 mm, wall thickness 3.4 – 6.6 mm	<b>PPC90-4</b>	
Diameter 110 mm, wall thickness 3.4 – 6.6 mm	<b>PPC110-4</b>	
Diameter 160 mm, wall thickness 4.9 – 9.1 mm	<b>PPC160-4</b>	

### B2.1.3 Separation of services minimum 200 mm

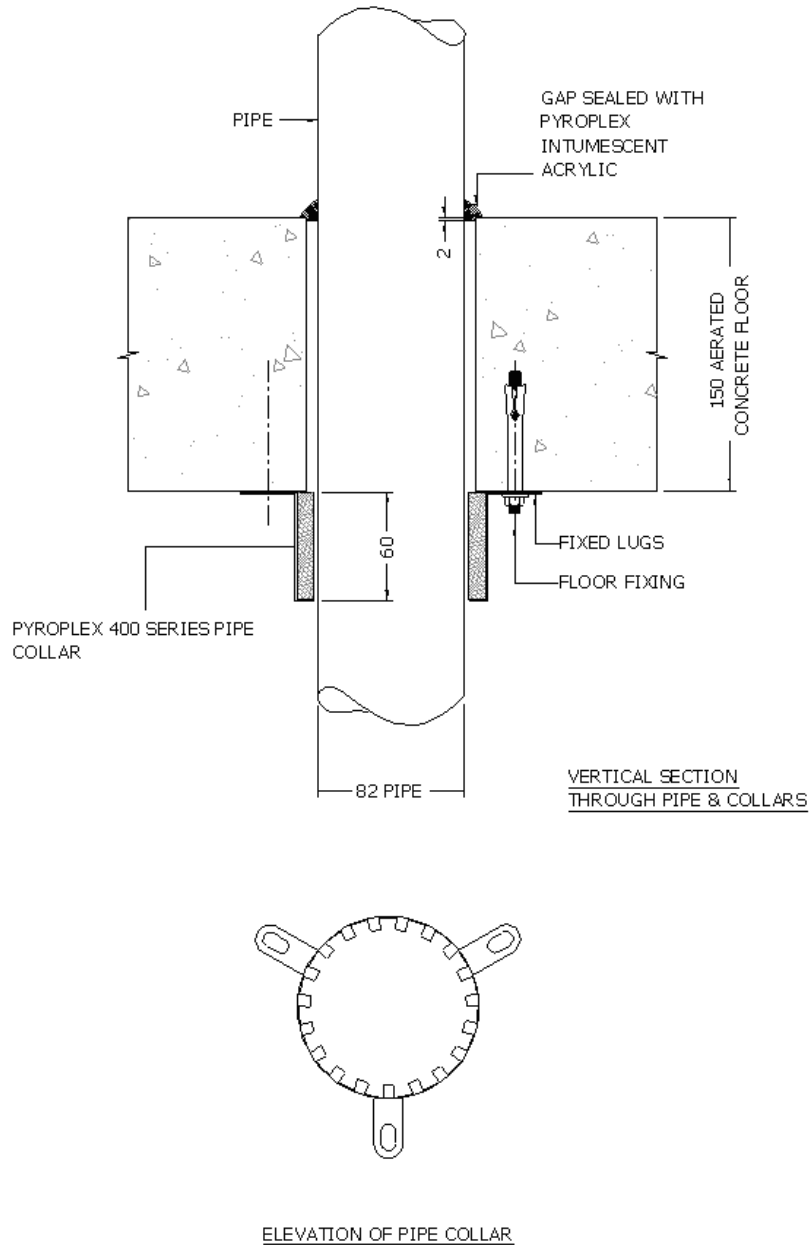
Services	Collar	Classification
<b>PP pipe according to EN 1451</b>		
Diameter 25 mm, wall thickness 1.8 – 3.7 mm	<b>PPC25-4</b>	<b>E 120 U/C, C/C EI 90 U/C, C/C</b>
Diameter 32 mm, wall thickness 1.8 – 3.7 mm	<b>PPC32-4</b>	
Diameter 40 mm, wall thickness 1.8 – 3.7 mm	<b>PPC40-4</b>	
Diameter 48 mm, wall thickness 1.9 – 4.4 mm	<b>PPC48-4</b>	
Diameter 55 mm, wall thickness 2.3 – 7.5 mm	<b>PPC55-4</b>	
Diameter 68 mm, wall thickness 2.3 – 7.5 mm	<b>PPC68-4</b>	
Diameter 82 mm, wall thickness 2.3 – 7.5 mm	<b>PPC82-4</b>	
Diameter 90 mm, wall thickness 2.7 – 10.0 mm	<b>PPC90-4</b>	<b>EI 120 U/C, C/C</b>
Diameter 110 mm, wall thickness 2.7 – 10.0 mm	<b>PPC110-4</b>	
Diameter 160 mm, wall thickness 4.0 – 9.1 mm	<b>PPC160-4</b>	

## B.2 Rigid floor constructions according to 1.2.1 with floor thickness of minimum 150 mm

### B.2.1 Penetration seal with 400 Series Collar fixed to soffit of floor

**Penetration Seal:** Combustible pipes fitted with a single Pyroplex 400 Series Collar on soffit. The collar is fixed to the floor. Maximum 2.5 mm annular space filled with Pyroplex Intumescent Mastic.

Construction details:



### B.2.1.1 Separation of services minimum 200 mm

Services	Collar	Classification
PVC-U pipe according to EN 1329-1 <sup>4</sup>		
Diameter 25 mm, wall thickness 1.8 mm	PPC25-4	EI 180 – U/C EI 180 – C/C
Diameter 32 mm, wall thickness 1.8 mm	PPC32-4	
Diameter 40 mm, wall thickness 1.8 mm	PPC40-4	
Diameter 48 mm, wall thickness 3.2 mm	PPC48-4	
Diameter 55 mm, wall thickness 3.2 mm	PPC55-4	
Diameter 68 mm, wall thickness 3.2 mm	PPC68-4	
Diameter 82 mm, wall thickness 3.2 mm	PPC82-4	
Diameter 110 mm, wall thickness 3.2 mm	PPC110-4	
Diameter 125 mm, wall thickness 3.2 mm	PPC125-4	
Diameter 135 mm, wall thickness 3.2 mm	PPC135-4	
Diameter 160 mm, wall thickness 3.2 mm	PPC160-4	
Diameter 200 mm, wall thickness 5.4 mm	PPC200-4	EI 180 – C/C
Diameter 225 mm, wall thickness 7.2 mm	PPC225-4	
Diameter 250 mm, wall thickness 7.2 mm	PPC250-4	
Diameter 315 mm, wall thickness 8.2 mm	PPC315-4	EI 120 – C/C

### B.2.1.2 Separation of services minimum 200 mm

Services	Collar	Classification
PE-HD pipe according to EN 12201-2 <sup>5</sup>		
Diameter 350 mm, wall thickness 23.7 mm	PPC350-4	EI 60 – C/C
Diameter 400 mm, wall thickness 23.7 mm	PPC400-4	

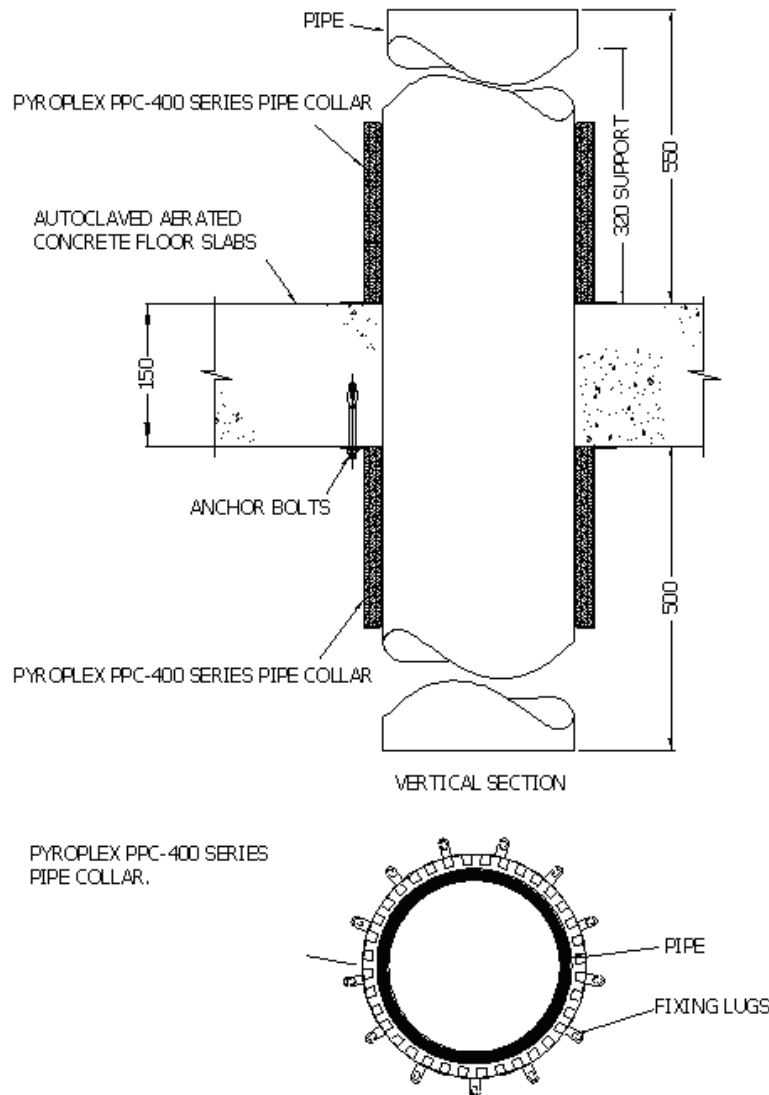
<sup>4</sup> In Germany the pipes have additionally to comply with DIN 19531-10

<sup>5</sup> In Germany the pipes have additionally to comply with DIN 19535-10

### B.2.2 Penetration seal with 400 Series Collar fixed to both faces of floor

**Penetration Seal:** Combustible pipes fitted with a single Pyroplex 400 Series Collar on both faces. The collar is fixed to the floor. Maximum 2.5 mm annular space filled with Pyroplex Intumescent Mastic.

Construction details:



#### B.2.2.1 Separation of services minimum 200 mm

Services	Collar	Classification
PVC-U pipe according to EN 1452-2 <sup>6</sup>		
Diameter 350 mm, wall thickness 9.8 mm	<b>PPC350-4</b>	<b>EI 180 – C/C</b>
Diameter 400 mm, wall thickness 9.8 mm	<b>PPC400-4</b>	

<sup>6</sup> In Germany the pipes have additionally to comply with DIN 19531-10